

Notice of Allowability

Application No.

09/885,568

Examiner

Sow-Fun Hon

Applicant(s)

CHEN ET AL.

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the interview dated 8/04/05 and the terminal disclaimer filed 8/04/05.
2. ☒ The allowed claim(s) is/are 1-2, 6-9, 11-14, 16, 18-21, 24-25.
3. ☒ The drawings filed on 7/30/02 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached .
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/21/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08042005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lisa Lindquist on August 04, 2005.

The application has been amended as follows:

2. Cancel claims 3, 5, 10.
3. Substitute Claim 1 with - - A medical balloon which has a determined preinflation diameter and length, a longitudinal axis, and restricted longitudinal and radial characteristics, comprising: a polymer matrix material; and a plurality of fibers distributed in the polymer matrix material to provide reinforcement thereof; the fibers are distributed in a selected direction relative to the longitudinal axis of the balloon and composed of polymeric material which has a greater tensile strength than the polymer matrix material, the fiber polymeric material selected from the group consisting of polyetheretherketone, polyphenylene sulfide, aromatic nylon, rigid polyurethane, polyester, copolyester, polyester blends, polyester/polyurethane blends and fluoropolymer, which is stronger than the polymer matrix material, and has a bulk elongation of 200% or less, which is less than the bulk elongation of the polymer matrix material, wherein the cores of the fibers are formed by phase separation from the melt

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upon extrusion of a melt blend of the fiber polymeric material and the polymer matrix material, and the fibers operatively adhere to the polymer matrix material. - -

4. Substitute Claim 2 with - - A medical balloon as in claim 1, wherein the fibers are distributed in the matrix material helically relative to the longitudinal axis of the balloon.

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5. Substitute Claim 6 with - - A medical balloon as in claim 1, the medical balloon has a wall composed of a plurality of laminate layers, at least one layer of which comprises said polymer matrix material and said fibers. - -

6. Amend Claim 7: Before "balloon", insert - - medical - -

7. Substitute Claim 8 with - - A medical balloon as in claim 7 with at least 7 of said layers. - -

8. Substitute Claim 9 with - - A medical balloon as in claim 6 wherein the fibers are distributed in the matrix material helically relative to the longitudinal axis of the balloon

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9. Substitute Claim 11 with - - A medical balloon as in claim 9 wherein said fibers have a diameter of from 0.01 to about 10 microns. - -

10. Substitute Claim 12 with - - A medical balloon as in claim 6 with a body portion wherein the fibers are oriented substantially parallel to the longitudinal axis of the balloon. - -

11. Substitute Claim 13 with - - A medical balloon as in claim 12 wherein said fibers have a diameter of from 0.01 to about 10 microns. - -

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12. Substitute Claim 14 with - - A medical balloon which has a determined preinflation diameter and length, a longitudinal axis, and restricted longitudinal and radial characteristics, comprising from 7 to 50 total polymer layers, which alternate between layers (A) and (B); layer (A) is composed of a polymer material and layer (B) is composed of a polymer matrix material and a plurality of fibers distributed in the polymer matrix material to provide reinforcement thereof; the fibers are distributed in a selected direction relative to the longitudinal axis of the balloon, and composed of polymeric material which has a greater tensile strength than the polymer matrix material, the fiber polymeric material selected from the group consisting of polyetheretherketone, polyphenylene sulfide, aromatic nylon, rigid polyurethane, polyester, copolyester, polyester blends, polyester/polyurethane blends and fluoropolymer, which is stronger than the polymer matrix material, and has a bulk elongation of 200 % or less, which is less than the bulk elongation of the polymer matrix material, wherein the cores of the fibers are formed by phase separation from the melt upon extrusion of a melt blend of the fiber polymeric material with the polymer matrix material, and the fibers operatively adhere to the polymer matrix material. - -
13. Substitute Claim 16 with - - A medical balloon as in claim 14 wherein the polymer material of layer (A) and the polymer matrix material of layer (B) are the same. - -
14. Amend Claim 18: Before "balloon", insert - - medical - -.
15. Amend Claim 19: Before "balloon", insert - - medical - -.

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16. Substitute Claim 20 with - - A medical balloon as in claim 14 where in the layers (B) the polymer matrix material comprises an LCP polymer present in an amount of from about 5 to about 25 % by weight. - -

17. Substitute Claim 21 - - A medical balloon as in claim 14, wherein at least some of said layers are formed from an extruded melt blend of a polymer matrix material and an LCP polymer material which formed fibers by phase separation from the melt blend, and the LCP polymer fibers are oriented substantially in a longitudinal or helical direction relative to the longitudinal axis of the balloon. - -

18. Substitute Claim 24 with - - A medical balloon as in claim 14 wherein said polymer material of layer (A) is compliant or semi-compliant and said polymer matrix material of layer (B) is compliant or semi-compliant. - -

19. Substitute Claim 25 with - - A medical balloon as in claim 14 wherein said polymer material of layer (A) and said polymer matrix material of layer (B) are individually selected from the group consisting of block copolymers comprising polyamide blocks and polyether blocks, block copolymers comprising polyester blocks and polyether blocks, and mixtures thereof. - -

20. Amend Specification: Page 1: Below heading of CROSS-REFERENCE TO RELATED APPLICATIONS, Substitute entire paragraph of "This application is a continuation ...09/426,384." with - - This application is a continuation-in-part of copending US Application No. 09/698378, now US Patent 6,905,743, which is a continuation-in-part of US Application No. 09/426384, now abandoned. - -

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21. Amend Specification: Page 13: Line 9 (2nd last line of paragraph): Substitute "(e.g." with - - it. - -

22. Amend Specification: Page 13: Delete lines 10-11, " claim 6 ...from claim 3; etc.)."

23. The following is an examiner's statement of reasons for allowance: the closest cited prior art of record, WO 95/18647, fails to teach or suggest, even in view of US 5,248,305 and US 5,427,842, the combination of a medical balloon which has a determined preinflation diameter and length, a longitudinal axis, and restricted longitudinal and radial characteristics, comprising: a polymer matrix material; and a plurality of fibers distributed in the polymer matrix material to provide reinforcement thereof; the fibers are distributed in a selected direction relative to the longitudinal axis of the balloon and composed of polymeric material which has a greater tensile strength than the polymer matrix material, the fiber polymeric material selected from the group consisting of polyetheretherketone, polyphenylene sulfide, aromatic nylon, rigid polyurethane, polyester, copolyester, polyester blends, polyester/polyurethane blends and fluoropolymer, which is stronger than the polymer matrix material, and has a bulk elongation of 200% or less, which is less than the bulk elongation of the polymer matrix material, wherein the cores of the fibers are formed by phase separation from the melt upon extrusion of a melt blend of the fiber polymeric material and the polymer matrix material, and the fibers operatively adhere to the polymer matrix material. The greater tensile strength of the fiber relative to the polymer matrix material, the bulk elongation of 200% or less of the fiber which is less than the bulk elongation of the polymer matrix,

and the operative adherence of the fiber to the polymer matrix material even after phase separation from the melt blend, are not taught by any of the references.

24. The new limitation of 50 % lower limit of the bulk elongation range in Applicant's amendment dated 05/25/05 has been cancelled by this Examiner's amendment, said limitation being new matter as it is not in the specification of the present application.

The present application is a continuation-in-part, and does not contain a statement that the entire content of the parent application 09/696,378 is incorporated by reference.

25. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571) 272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon

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08/05/05

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

8/5/05